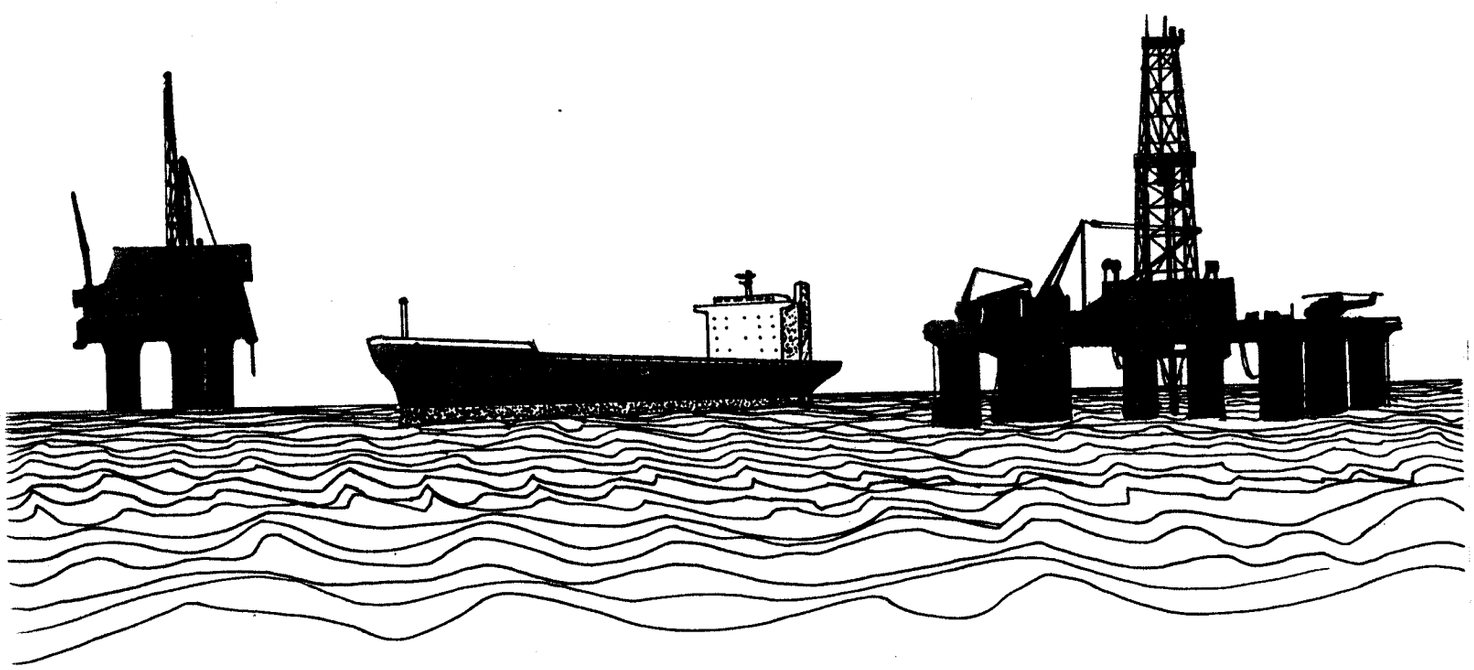
THE SIXTH

INTERNATIONAL WORKSHOP ON WATER WAVES AND FLOATING BODIES

Woods Hole, Massachusetts

April 14 - 17, 1991



THE SIXTH INTERNATIONAL WORKSHOP
on
WATER WAVES AND FLOATING BODIES

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ABSTRACT

A workshop was held on 14-17 April 1991 for specialists performing theoretical research on the interactions of water waves with floating or submerged bodies. This report contains extended abstracts of the presentations and summaries of the discussions.

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INTRODUCTION

The Sixth International Workshop on Water Waves and Floating Bodies was held at the Swope Center in Woods Hole, Massachusetts, from 14-17 April 1991. The Workshop was organized by MIT, and sponsored by the Office of Naval Research, Advanced Technology Program, and by the Society of Naval Architects and Marine Engineers, Technical and Research Program. Following the format which has evolved for this annual series of Workshops, participation was based on submitted abstracts of each talk. These abstracts are included in this Report, in alphabetical order based on the name of the (first) author. Following each abstract is a transcript of discussions which took place during the corresponding talk. Also included in this Report is a list of titles and authors, and a list of participants' names and addresses (with e-mail addresses where available).

A total of 47 papers were presented at the Workshop, with 25 minutes allotted to each paper and to the ensuing discussion. As at the previous Workshops, a high standard of presentation and content was maintained, with intensive levels of discussion both in the meeting room and in extemporaneous interactions between the participants. In addition to the regular papers two special evening sessions were held, on practical aspects of wave interactions with ships and platforms. Some of the papers presented at these evening sessions have been submitted by the respective authors, and are included here.

The Workshop series is now well established, and commitments have been made for the next three years. The Seventh Workshop, organized jointly by the Bassin d'Essais des Carènes and by the Institut Français du Pétrole, will be held at Val de Reuil, France, on 24-27 May 1991. A complete list of the past and proposed future Workshops is given on the next page, with information for ordering copies of the Reports.

In order to ensure continuity in the future, agreement was reached at Woods Hole that all past and prospective hosts should constitute a committee which will meet at each Workshop. This committee is responsible for inviting and assessing proposals for future Workshops, assisting and advising the hosts, and considering other procedural matters.

Having initiated the Workshops in a relatively *ad hoc* manner, we are gratified by the enthusiastic and cooperative response of the participants, sponsors, and other hosts. Special thanks are due this year to Susan Walsh and Paula Stanley for substantial administrative assistance. The staff of the Swope Center also contributed significantly to the success of the Workshop by providing the participants with a pleasant meeting room, comfortable accommodations, and good food.

Professor J. N. Newman
Dept. of Ocean Engineering
Massachusetts Institute of Technology

Professor D. V. Evans
Dept. of Mathematics
University of Bristol

LIST OF PRESENTATIONS

Aranha, J.A.P.	Wave Groups and Slow Motion of An Ocean Structure
Bertram, V., Söding, H.	A Panel Method for Ship Motions
Boudet, L., Cointe, R., Molin, B.	Nonlinear propagation of bichromatic wave trains
Broderick, L.L.	Water Waves Deformable Bodies
Cao,Y., Schultz, W.W., Beck, R.F.	Two-Dimensional Solitary Waves Generated by a Moving Pressure on the Free Surface
Clarisse, J.M.	Highly oscillatory behaviors in the Neumann -Kelvin Problem
Clement, A.	The Diffraction of a Solitary Wave by a Free-Surface Piercing Cylinder
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Gottlieb, O.	Nonlinear Oscillations, Bigurcations and Chaos in Wave-Structure Interactions Systems
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Huang, Z., Hsiung, C.C.	A Hydro-Aero-Elastic Model for Slamming of a 2-D Ship Hull Section

Jefferys, E.R., Billings, S.A., Jamaluddin, H., Tomlinson, G.R.	A Non-Linear Discrete Time Model of the Drift Force
Kagemoto, H.	Minimization of Wave Forces on an Array of Floating Bodies – The Inverse Hydrodynamic Interaction Theory
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Nestegard, A.	Wave Induced Motions of Surface Effect Ships

Newman, J.N.	The Inverse Ship-Wave Problem
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Pawlowski, J.S.	An Explicit Form of the Impermeability Condition and its Application in Hydrodynamics and Hydroelasticity
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Zhao, R., Faltinsen, O.M.	Water Water Entry of a Two-Dimensional Body